Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the applications:

Listing of Claims:

1-82 (cancelled)

83. (withdrawn) A method for producing a protein from an endogenous ~~cellular~~ gene in a cell comprising:

(1) introducing a genetically engineered vector comprising a transcriptional regulatory sequence operably linked to an unpaired splice donor sequence into a purified eukaryotic cell;

(2) maintaining said cell under conditions appropriate for integrating said vector into the genome of said cell by non-homologous recombination whereby said transcriptional regulatory sequence and unpaired splice donor sequence are operably linked to said endogenous ~~cellular~~ gene, said splice donor sequence being spliced to a splice acceptor sequence in said gene;

(3) maintaining said cell under conditions appropriate for expressing said endogenous ~~cellular~~ gene in said cell by means of said transcriptional regulatory sequence; and

(4) maintaining said cell so as to produce amounts of the protein encoded by said endogenous ~~cellular~~ gene.

84. (withdrawn) The method of claim 83 wherein said transcriptional regulatory sequence is non-retroviral.

85. (withdrawn) A method to express and screen for expression of ~~a cellular~~ an endogenous gene in a cell comprising:

(1) introducing a genetically engineered vector into a purified eukaryotic cell and maintaining said cell under conditions appropriate for integrating said vector into the genome of a cell, said vector lacking targeting sequences and containing a transcriptional regulatory sequence and unpaired splice donor sequence, so that the coding region of a gene in the genome is operably linked to the transcriptional regulatory sequence and splice donor sequence on the vector, said splice donor sequence being spliced to a splice acceptor sequence in said gene; and

(2) screening said cell for expression of a protein that is encoded by said gene.

86. (withdrawn) The method of claim 85 wherein said transcriptional regulatory sequence is non-retroviral.

87. (withdrawn) The method of claim 85 with the additional step of isolating the cell producing the protein encoded by said gene.

88. (withdrawn) A method to express and screen for expression of ~~a cellular~~ an endogenous gene in a cell comprising:

(1) introducing a genetically engineered vector into a purified eukaryotic cell and maintaining said cell under conditions appropriate for integrating said vector into the genome of a cell by non-homologous recombination, said vector containing a transcriptional regulatory sequence and unpaired splice donor sequence, so that the coding region of a gene in the genome is operably linked to the transcriptional regulatory sequence and splice donor sequence on the vector, said splice donor sequence being spliced to a splice acceptor sequence in said gene; and

(2) screening said cell for expression of a protein encoded by the ~~cellular~~ gene, said gene and said upstream region of said gene lacking homology to the vector that would facilitate homologous recombination of the vector with the genome to cause expression of said gene.

89-91 (cancelled)

92. (currently amended) A purified eukaryotic cell expressing a protein, the genome of said cell comprising ~~in its genome~~ a genetically engineered vector, the ~~genetic~~ vector comprising a transcriptional regulatory sequence operably linked to a splice donor sequence, said

transcriptional regulatory sequence being linked ~~effectively~~ operably in the cell's genome to a gene in the genome encoding said protein so as to cause expression of said gene and said splice donor sequence being spliced to a splice acceptor sequence in said gene, the genetically engineered vector being inserted into said gene or ~~upstream~~ region proximal to said gene, said gene and ~~upstream~~ region proximal to said gene having no homology to any sequences in the vector that would facilitate homologous recombination of the vector with the genome to cause expression of said gene.

93. (currently amended) The eukaryotic cell of claim 92 wherein the vector additionally contains an amplifiable marker.

94. (currently amended) A purified eukaryotic cell expressing a protein, the genome of said cell comprising ~~in its genome~~ a genetically engineered vector, the vector comprising a transcriptional regulatory sequence operably linked to a splice donor sequence, said transcriptional regulatory sequence on the vector being linked ~~effectively~~ operably in the cell's genome to a gene in the genome encoding said protein so as to cause expression of said gene and said splice donor sequence being spliced to a splice acceptor sequence in said gene, the vector containing no homology to any sequences in said gene or to ~~upstream~~ regions proximal to ~~of~~ said gene that would facilitate homologous recombination of the vector with the genome to cause expression of said gene.

95. (withdrawn) A method to express and screen for expression of ~~a~~ an endogenous gene in a cell encoding a protein comprising:

(1) constructing a vector comprising a transcriptional regulatory sequence and an unpaired splice donor sequence;

(2) introducing said vector into a purified eukaryotic cell;

(3) maintaining the cell under conditions permitting non-homologous recombination events between the inserted vector and the genome of the cell whereby said transcriptional regulatory sequence and splice donor sequence are operably linked to said gene, said splice donor sequence being spliced to a splice acceptor sequence in said gene; and

(4) screening the recombinant cell by assay for expression of the protein encoded by said gene, said gene and upstream region of said gene having no homology to the vector that would facilitate homologous recombination of the vector with the genome to cause expression of said gene.

96. (currently amended) A purified eukaryotic cell expressing a protein encoded by an endogenous gene, the genome of said cell comprising ~~in its genome~~ a genetically engineered vector, the vector comprising a transcriptional regulatory sequence operably linked to a splice donor sequence, said transcriptional regulatory sequence on the vector being linked operably ~~effectively~~ in the cell's genome to cause expression of a protein encoded by said gene and said

splice donor sequence being spliced to a splice acceptor sequence in said gene, the vector being inserted into said gene or ~~upstream~~ region proximal to ~~of~~ said gene by non-homologous recombination.

97. (currently amended) A purified eukaryotic cell expressing a protein encoded by an endogenous gene, the genome of said cell comprising ~~in its genome~~ a genetically engineered vector, the vector comprising a transcriptional regulatory sequence operably linked to a splice donor sequence, said transcriptional regulatory sequence on the vector being linked operably ~~effectively~~ in the cell's genome to cause expression of a protein encoded by said gene and said splice donor sequence being spliced to a splice acceptor sequence in said gene, said vector not containing a targeting sequence that would facilitate homologous recombination of the vector with the genome to activate expression of said gene.